



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/718,312	11/22/2000	Walter F. Rausch	1437	3505

7590

01/02/2004

Attn: Harley R. Ball
Sprint Law Department
Mailstop: MOKCMP0503
8140 Ward Parkway
Kansas City, MO 64114

EXAMINER

NGUYEN, DUC M

ART UNIT

PAPER NUMBER

2685

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/718,312

Applicant(s)

Rausch et al

Examiner

Duc M. Nguyen

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Sep 9, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-62, and 64-68 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-62, and 64-68 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 6) ☐ Other:

Art Unit: 2685

DETAILED ACTION

This action is in response to applicant's response filed on 9/9/03. Claims 1-6, 8-62, 64-68 are now pending in the present application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 8-62, 64-68 are rejected under 35 U.S.C. 103(a) as being unpatentable by **Appel et al** (GB Pub. Number 2347319) in view of **Talbot** (US Pat No. 6,163,294) and **Bickley et al** (US Pat No. 5,982,322).

Regarding claims 1, 8, 11, 14, 35, 41, 45, 57, 67-68, **Appel** discloses a wireless communication system comprising an antenna located at a communication tower (see **Fig. 10** and **col. 13, line 7 - col. 14, line 19**), which receives and converts a communication signal to an optical signal for transmitting over a fiber optical cable (see **col. 7, line 34 - col. 8, line 3** and **col. 9, line 30 - col. 10, line 10**, and **col. 15, lines 4-26**). However, although **Appel** discloses a GPS receiver which provides accurate clock and frequency signal to the radio unit (PRU) (see **col. 15,**

Art Unit: 2685

lines 4-26) and a frequency synthesizer for down converting the receiving signal to a lower frequency signal (see col. 7, line 34 - col. 8, line 3 and col. 9, line 30 - col. 10, line 10), **Appel** is silent on a stabilizing system configured to generate a stable timing signal from the GPS to the synthesizer. However, **Talbot** discloses a stabilizing system configured to generate a stable timing signal to an oscillator or VCO from a GPS receiver to account for drift rates (see **Figs. 2-3** and col. 5, line 64 - col. 6, line 9). Here, since it is well known in the art that frequency synthesizer is a VCO for generating a variety of predetermined frequencies derived from a stable master oscillator which is in turn calibrated by accurate timing or frequency signals from a GPS receiver as disclosed by **Bickley** (see col. 8, lines 1-19), and since **Appel** discloses a GPS receiver which provides frequency signals to the radio unit (PRU) and a frequency synthesizer for down converting the receiving signal to a lower frequency signal, it would have been obvious to one skill in the art to provide the above teaching of **Talbot** to **Appel** to provide the frequency signal from the GPS receiver to the synthesizer for providing a stabilizing system as claimed, in order to generate an oscillator signal to down convert the receiving signal to a lower frequency signal while reducing long-term frequency drift in the oscillator signal of the synthesizer (see **Talbot**, Fig. 2).

Regarding claims 2-6, 8-10, 12-13, 17-18, 22, 24-25, 29-31, 34, 36-39, 42-43, 48-51, 55-56, 58-62, 64-65, the claimed are interpreted and rejected for the same reason as set forth in

Art Unit: 2685

claim 1 above, wherein it is clear that **Appel** as modified would disclose the stabilizing system comprising a stabilized local oscillator as claimed (see **Talbot**, Fig. 3), and the converting system would also comprise a block converter as claimed.

Regarding claims 15-16, 23, 29, 32, 2-6, 8-10, 12-13, 17-18, 22, 24-25, 29-31, 40, 44, 46-47, 66, the claimed are rejected for the same reason as set forth in claim 1 above. In addition, since such features (i.e, amplifier, filter or frequency range) as recited in the claims are well known in the art as components of a transceiver, it would have been obvious to one skill in the art to further modify **Appel**, **Talbot** and **Bickley** to incorporate such features into the system, for improving signal quality and system performance of the communication system.

Regarding claims 26, 52, the claims are rejected for the same reason as set forth in claim 1 above. In addition, **Appel** discloses the fiber optic transmitter and the fiber optic receiver as claimed (see **Appel**, Fig. 10 and col. 9, line 30 - col. 10, line 5 and col. 14, lines 14-18).

Regarding claims 28, 54, the claims are rejected for the same reason as set forth in claim 1 above. In addition, **Appel** as modified would disclose the stable timing signal is transmitted at a base of a tower as claimed (see **Appel**, Fig. 10).

Regarding claims 27, 53, the claims are rejected for the same reason as set forth in claim 28 above. In addition, although **Appel** would disclose the stable timing signal is transmitted at a base of a tower, it would have been obvious to one skill in the art to further modify **Appel**, **Talbot** and **Bickley** to generate the stable timing signal at the upper of the tower

Art Unit: 2685

by placing the GPS receiver at the upper of the tower, for reducing the blockage of GPS satellite signals caused by tall buildings.

Regarding claims **33-34**, the claims are rejected for the same reason as set forth in claim 1 above. In addition, since the use of redundant components in a communication system is well known in the art for backup failure components, it would have been obvious to one skill in the art to modify **Appel**, **Talbot** and **Bickley** to comprise such redundant components as recited in the claim, for providing a back up system to minimize disruptions of the communication system.

Response to Arguments

3. Applicant's arguments with respect to claims 1-6, 8-62, 64-68 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for formal communications intended for entry)

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Serial Number: 09/718,312

Page 6

Art Unit: 2685

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington VA, Sixth Floor (Receptionist).

Any inquiry concerning this communication or communications from the examiner
should be directed to Duc M. Nguyen whose telephone number is (703) 306-4531, Monday-
Thursday (9:00 AM - 5:00 PM). Or to Edward Urban (Supervisor) whose telephone number is
(703) 305-4385.

Any inquiry of a general nature or relating to the status of this application should be
directed to the Group receptionist whose telephone number is (703) 305-4700.

Duc M. Nguyen



Dec 22, 2003